

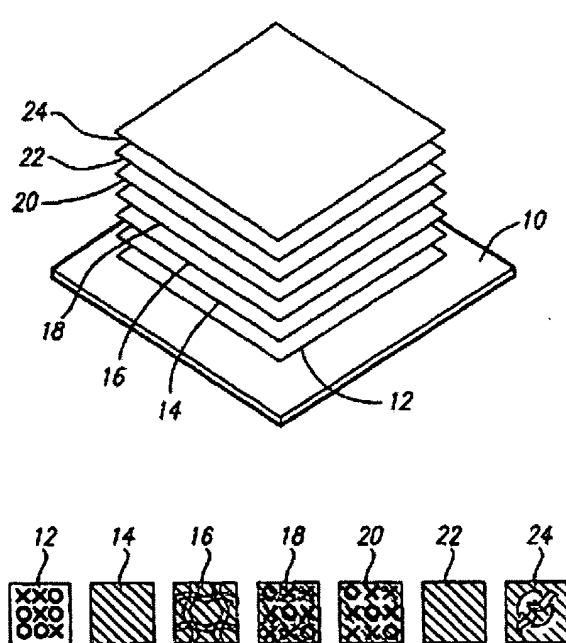


IMPROVEMENTS RELATING TO GAME TICKETS**Publication number:** WO9501821**Publication date:** 1995-01-19**Inventor:** BENSON VICTOR (GB); BEDFORD JON (GB)**Applicant:** OPAX INT LTD (GB); BENSON VICTOR (GB);
BEDFORD JON (GB)**Classification:****- international:** A63F3/06; A63F3/06; (IPC1-7): A63F3/06**- european:** A63F3/06F2**Application number:** WO1994GB01433 19940701**Priority number(s):** GB19930013806 19930703**Also published as:** EP0707507 (A1)
OA10253 (A)
FI956309 (A)
EP0707507 (A0)
EP0707507 (B1)

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Cited documents: US4095824
CA2076562
US3877155
US3055117
EP0568814**Report a data error here****Abstract of WO9501821**

Game tickets are printed with a number of layers including an opaque abradable or scratchable layer (22, 38, 40) which is removed by the user to reveal the ticket game indicia layer (18, 32). The ticket uses a relatively light permeable substrate (10) and to prevent the game indicia (18, 32) from being illicitly read by shining an intense light at the rear of the ticket, the layers embody a confusion pattern layer (12, 36) under the abradable layer (22, 38, 40) which registers with the game indicia.



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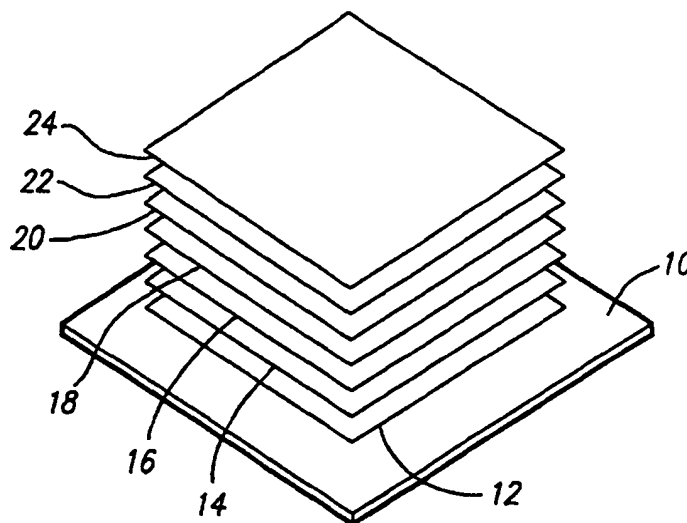
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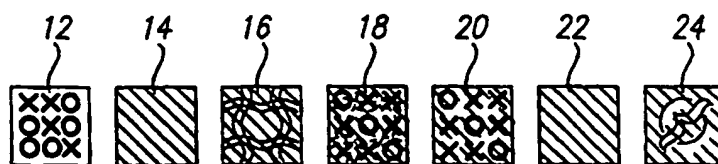
(54) Title: **IMPROVEMENTS RELATING TO GAME TICKETS**

(57) Abstract

Game tickets are printed with a number of layers including an opaque abradable or scratchable layer (22, 38, 40) which is removed by the user to reveal the ticket game indicia layer (18, 32). The ticket uses a relatively light permeable substrate (10) and to prevent the game indicia (18, 32) from being illicitly read by shining an intense light at the rear of the ticket, the layers embody a confusion pattern layer (12, 36) under the abradable layer (22, 38, 40) which registers with the game indicia.



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Improvements Relating to Game Tickets

This invention relates to game tickets, and in particular relates to lottery tickets of the so called "instant game" type.

Lottery tickets of the instant game type are such that when played by a user, the user will know immediately or "instantly" from the use of the ticket whether or not a prize has been won. Typically, instant game tickets comprise a base or substrate on which is printed information concerning the game. Information may be symbols, words, numbers or any combination of indicia and in one particularly popular form of instant game, the game indicia is covered by means of a scratch off or abradable material. The user simply scratches away this material in order to reveal the indicia either in whole or in part, in accordance with the rules of play, in order to reveal the said game indicia and to assess usually from information printed on the ticket whether or not the ticket is a winner or a loser.

These instant games can be used for the distribution of prizes which can in some instances be considerable. It is usual to arrange the tickets in sets and they are sold at a fixed price and as the prizes are usually pre-determined the promoter will know exactly the income to be derived from a set of tickets. In any one set there may be a range of winning tickets and may comprise one major prize, a group of larger prizes, and a much greater group of smaller prizes. Tickets may on the other hand be based on probability and winners and losers will depend upon the manner in which the user by his own selection abrades the removable material.

Whatever the prize structure, it is regrettable that the tickets are subjected to scrutiny with a view to fraud and

promoters and agents and other people into whose hands the tickets come will often endeavour to predetermine the winning tickets and extract same from the set. Such fraudsters will go to extreme lengths in order to determine winning tickets so much so that tickets have had to be designed to be "secure" from the established and sometimes sophisticated preidentification techniques which are used.

The main preidentification technique of a ticket of the type involving scratch off material needs to use high intensity lighting in order to in effect view the game indicia through the ticket before tampering with the abradable material. If the concealed indicia can be ascertained by the use of a high intensity light, then winners can be preidentified and extracted. In order to defeat this fraud, manufacturers have had to resort to special measures and these in particular have involved the use of base or substrate materials which are described as "secure". Such materials prevent the passage therethrough of high intensity light and typically comprise laminates involving foil or specially designed base boards which are resistant to light penetration. These boards unfortunately are expensive and generally are environmentally objectionable. There is therefore a need to improve lottery tickets, both from a cost point of view and an environment point of view by adopting the use of more standard and less expensive substrate materials which compared to the secure materials can be described as "non-secure".

The present invention has been conceived with this objective in mind, and specifically the invention has as an object to permit the use of commercially available and somewhat standard materials (non-secure) such as white carton board as the substrate. By adopting the measures of the present invention it is believed that less expensive and more

commercially available and commercially used materials may be adopted for the substrate.

The invention can be applied to tickets which comprise a single substrate layer, or tickets where two substrate layers are adopted in the form of the so called "window" tickets wherein one of the substrates has windows which are torn back to expose information concerning the game carried by the other substrate.

In accordance with the invention a game ticket comprises a non-secure substrate having game indicia printed thereon which is covered by material abradable in order to reveal the game indicia, and wherein a confusion pattern layer registers with the same indicia and lies under the abradable material so that the confusion pattern is not visible to the naked eye but will lead to confusion results if an attempt is made to identify the game indicia by the shining of intense light through the ticket.

It can be seen that by the provision of the hidden confusion pattern, an effective and simple means is provided for rendering the ticket as secure as a ticket which may be provided with a specially selected secure substrate. The confusion pattern preferably is made up of patterns, symbols, numbers, words or other indicia corresponding to the indicia of the game proper, but arranged in a form in order to enhance the confusion effect.

Thus, when the same indicia as made up of a number of symbols for example of two types, such as "O's" and "X's" the confusion pattern may be made up of the same symbols but in mirror image arrangement so that at each location in the pattern if the ticket is illuminated by a high intensity light from the rear, the viewer will see a shape represented

by a 'O' superimposed on an "X" and will be unable to tell which symbol is in the game indicia and which is in the confusion pattern. The above is only one specific example but any arrangement of symbols may be adopted. Thus if the game indicia is made up of three types of symbols, it may be necessary to put down two confusion pattern layers so that all three types of symbols are laid down at each location.

Several arrangements may be adopted or the sequence of application of the various layers in the ticket, but two are given hereinafter by way of example.

In each case the substrate preferably is a layer of plain cardboard or paper of appropriate caliper to give the desired handling and feel characteristics.

In the first example, the confusion pattern is printed on the substrate before the game pattern indicia, and there is a separation layer between the confusion pattern and the game indicia such separation layer providing a means of obscuring the confusion pattern to normal version when the abradable material is removed.

In another example, the game indicia is laid down on the substrate prior to the application of the confusion pattern, and then the confusion pattern is covered by the abradable layer. In this case, the confusion pattern is also abradable, and will be removed by abrasion of the abradable covering layer.

The tickets may be treated with other layers such as protective varnish, and other security printing in accordance with conventional practice although in the case of the first example, the layer of material which is applied between the confusion pattern and the game indicia should be adapted and

created to ensure that it will bond effectively to the substrate. In each case steps should be taken to ensure that the game indicia will effectively bond to the substrate and will not be removed during the abrading process.

Two embodiments of the invention corresponding to the abovementioned examples, will now be described, by way of example, with reference to the accompanying diagrammatic drawing, wherein:-

Fig. 1 is an exploded perspective view of the various layers of a lottery ticket according to the first embodiment of the invention;

Fig. 2 shows in a series of steps how the various layers of the Fig. 1 ticket are laid down on the ticket substrate; and

Figs. 3 and 4 are views similar to Figs. 1 and 2, but showing an alternative embodiment of the invention.

Referring to the drawings, and firstly to Fig. 1, this figure shows in exploded elevation a lottery ticket according to an embodiment of the invention. The view shows that the ticket comprises a base layer or substrate 10, which is of a material of essentially conventional and commercially usable construction, and may typically be a white conventional carton board of appropriate caliper.

The figure also shows by a series of superposed rectangles the various layers which are laid down, for example by printing, on the substrate 10. Although these layers are indicated by rectangles, it is to be mentioned that in fact each layer may not be rectangular and may be made up for example of a plurality of symbols to form the game indicia. It is convenient however to adopt the rectangular

representation for the purposes of illustration. Also, the sequence of illustrations (a) to (g) of Fig.2 shows the top of the ticket after the respective layers have been deposited on the substrate.

Additionally, it should be mentioned that the various superimposed layers in the illustration give the impression of having a substantial thickness, but in fact each layer will be only a few micron in thickness such that when all of the layers are laid down on the ticket, they will not contribute substantially to increasing the ticket thickness.

Bearing the above explanations in mind, the various layers are now described in more detail.

The first layer 12 which is deposited on the substrate sheet 10 is a confusion pattern, and this layer is illustrated at (a) in Fig. 2. The pattern is represented as a plurality of symbols which, as will be explained hereinafter correspond to the symbols used for the game indicia, but are arranged in a scrambled pattern different from the pattern of the game indicia.

The second layer which is applied over the confusion pattern is indicated by reference numeral 14, and comprises an obscuring layer which is an opaque layer of ink applied for example by silk screen printing. The opaque layer is of a character which binds tenaciously to the board 10, so as to cover the confusion pattern, and also to provide a receptive surface for the next layer 16 and the following layers.

The layer 16 is in the form of a pattern, which is conventional in nature, and is known in the art as a benday pattern, the purpose of which is to prevent the cutting up and resticking of the ticket. On top of the benday pattern

is applied the layer 18 which is the game pattern or game indicia which is illustrated at (d) in Fig. 2. Illustrations (b) and (c) in Fig. 2 represent layers 14 and 16.

The game pattern is applied by conventional printing techniques, and the layers 20, 22 and 24 which are applied over the game pattern layer 18 are also conventional in nature and comprise a varnish layer to protect the game indicia, an abradable or scratch off layer 22 of conventional scratch off material known in the art as "tessac", and finally a security print layer applied on the tessac layer in order to prevent solvent removal of the tessac.

The layers 20, 22 and 24 are represented by layers (e), (f) and (g) in Fig. 2.

The advantage of the embodiment of the invention shown in Fig. 2 is that should an attempt be made to identify the content of the game indicia (e) by shining a high intensity light through the ticket, the game indicia pattern will interfere with the confusion pattern and make it almost impossible for effective detection of the game indicia to be made in this way. The person endeavouring to detect the game indicia is prevented from viewing the confusion pattern which is buried within the layers of the ticket.

When the ticket is used, in conventional manner, the layer 22 is removed by abrasion, for example using the edge of a coin or a finger nail taking with it the security print layer 24, and the game indicia then becomes visible, the varnish 20 serving as a protective means against abrasion of the game indicia from the ticket.

In the arrangement of Figs. 3 and 4, the same principles apply, the exception being that the order of application of

the layers, and the materials used are slightly different.

Referring to Fig. 3, again a non-special non-secure substrate layer 10 is utilised, this being a particular advantage of the invention, and the layers which are applied and the order in which they are applied are as follows.

The first layer 30 is the benday layer, and on top of this is applied the game indicia layer 32.

The varnish layer 34 is applied over the game indicia to protect same from abrasion as disclosed hereinbefore, and on top of the varnish layer is applied a first scratch off layer 36 which comprises the confusion pattern. The ticket if viewed at this stage will have the appearance as indicated in Fig. 4 (d) which is a useful figure to examine because it illustrates how the game indicia and confusion pattern interfere, making it well nigh impossible for the game indicia to be identified by shining an intense light through the ticket.

On top of the confusion pattern is applied a covering layer preferably of solid black silk screened ink which can be abraded. This layer is indicated by reference 38. The purpose of this layer is to prevent the variable information being read if the ticket has been delaminated or split.

The said subsequent layers are a conventional scratch off layer 40, which is used to some extent simply because of its colour characteristic and customer familiarity, and the final layer is an overprint layer 42 similar to the layer 24 of the Fig. 1 embodiment.

Again, the various views (a) to (g) in Fig. 4 correspond to the appearance of the layers 30 to 42 as they are laid down

on the substrate.

In this embodiment of the invention, again the confusion pattern (layer 36) is buried within the layers of the ticket and cannot be seen by the user of the ticket prior to removal of the scratch off layer or layers and if the user intends to shine a light through the ticket to ascertain the nature of the game indicia, he will be thwarted by virtue of the interaction of the confusion pattern and the game pattern, which is conveniently illustrated by Fig. 4 (d).

There may be two or more confusion pattern layers if the degree of confusion is to be increased.

Conventional materials may be used for the application of the various layers, and conventional printing processes may be adopted although silk screening is preferably used for the application of the obscuring layer 14 in the Fig. 1 embodiment, and for the solid confusion black layer 38 in the Fig. 3 embodiment. The game indicia layer in each case, and all layers under it in the Figs. 1 and 2 embodiment are laid so as to bend to the substrate so as not to be removed by the abrading action.

The present invention provides the considerable advantage that standard and relatively inexpensive and commercially available materials can be used for the substrates instead of specialist light obstructing substrates secure such as foil coated board or specially adapted board. As well as saving costs, this feature also has environmental advantages.

CLAIMS

1. A game ticket comprising a non-secure substrate (10) having printed game indicia (18, 32) thereon which is covered by material (22, 38, 40) abradable in order to reveal the game indicia (18, 32) characterised in that a confusion pattern layer (12, 36) registers with the game indicia (18, 32) and lies under the abradable material (22, 38, 40) so that the confusion pattern (12, 36) is not visible to the naked eye but will lead to confusion results if an attempt is made to identify the game indicia by the shining of intense light through the ticket.
2. A ticket according to Claim 1, characterised in that the game indicia (18, 32) is made up of a number of different symbols, numbers and/or letters or the like arranged in a plurality of locations and the confusion pattern (12, 36) is also made up of the same symbols, numbers and/or letters in the same plurality of locations but arranged so that the symbols numbers, and/or letters in the confusion pattern (12, 36) overlies different symbols numbers and/or letters in the game indicia (18, 32).
3. A ticket according to Claim 1 or 2, characterised in that the substrate (10) comprises a layer of plain cardboard or paper of appropriate caliber.
4. A ticket according to any of Claims 1 to 3, characterised in that the confusion pattern (12) underlies game indicia (18) and there is separation layer (14) between the confusion pattern (12) and the game indicia (18) providing a means (14) of obscuring the confusion pattern (12) to normal vision when the abradable material (22) is removed.
5. A ticket according to Claim 1, 2 or 3, characterised in

that the game indicia (32) is laid down on the substrate prior to the application of the confusion pattern (36) and the confusion pattern is covered by the abradable material (38, 40) said confusion pattern (36) being abradable along with the abradable material (38, 40).

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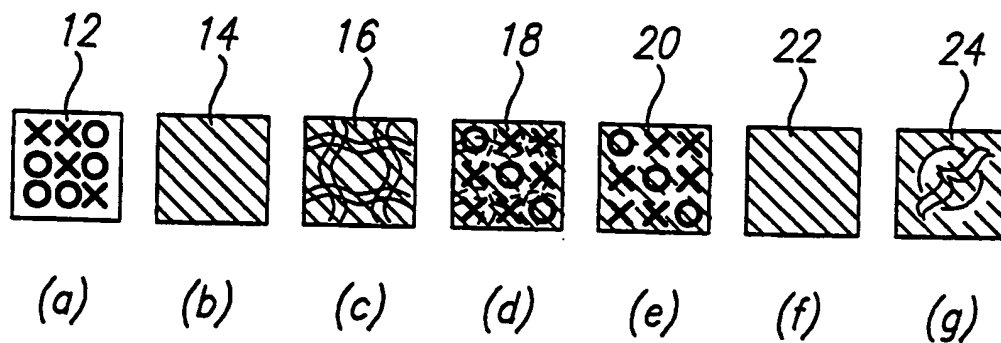
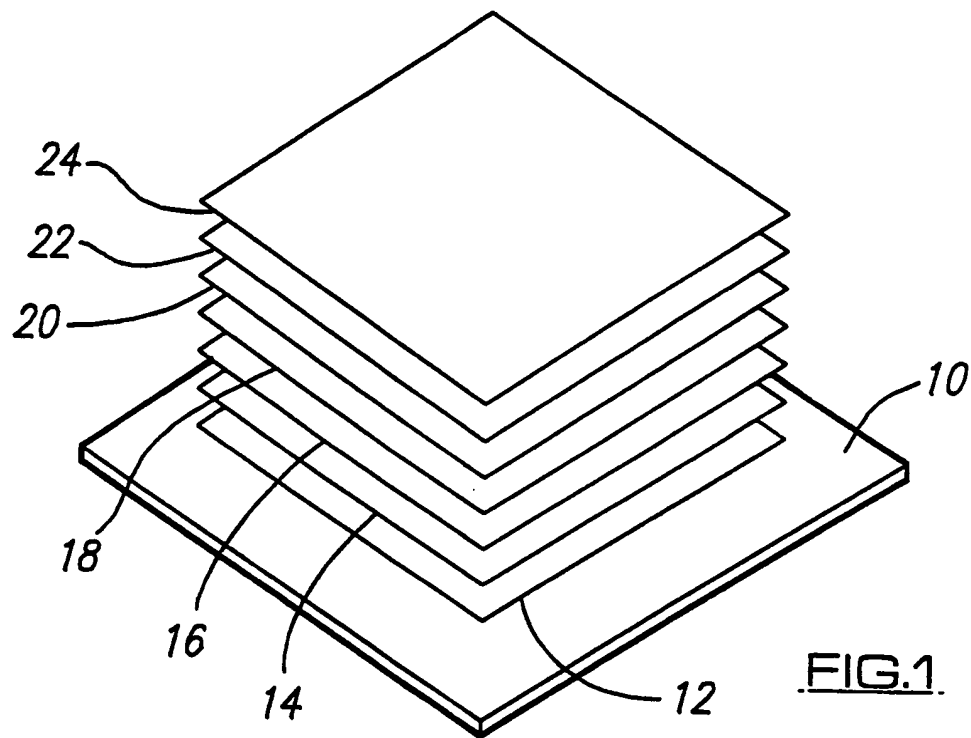


FIG. 2

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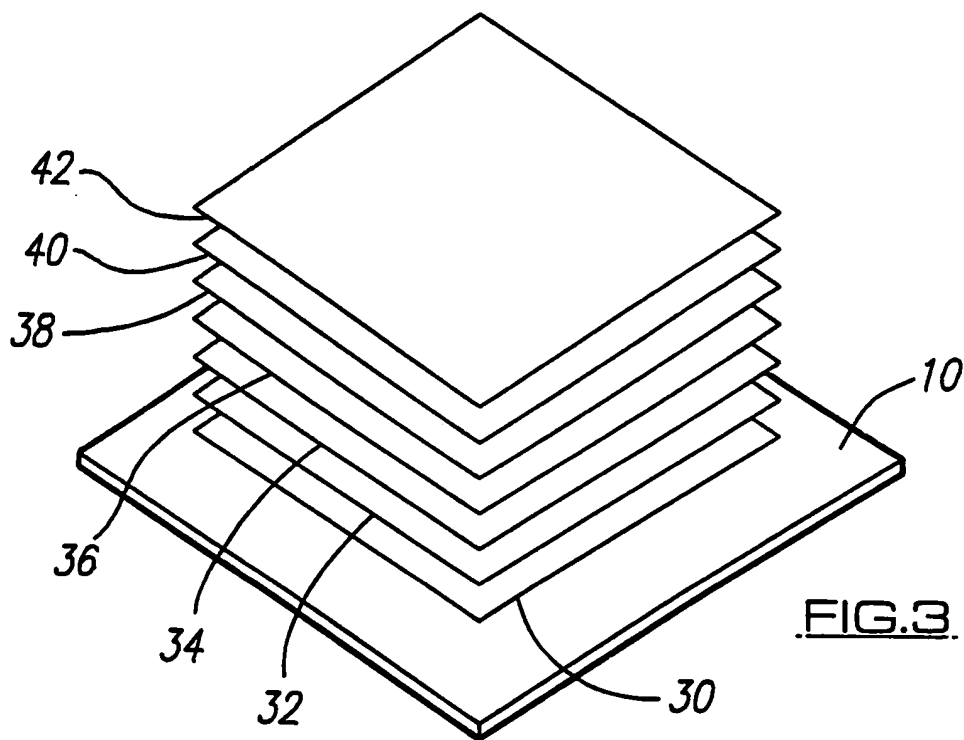


FIG. 3

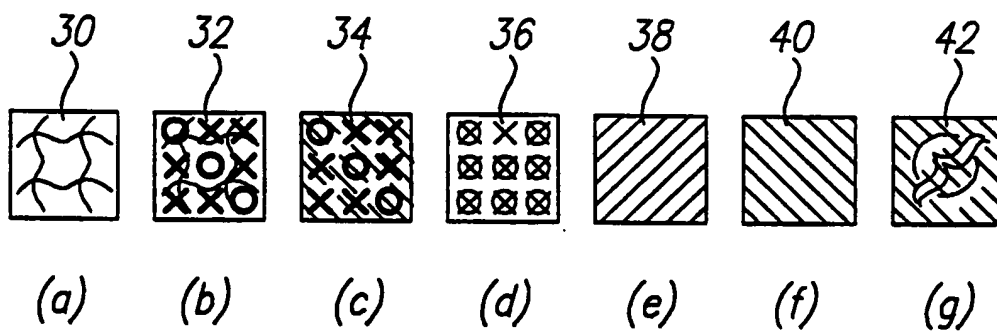


FIG. 4

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 94/01433

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 A63F3/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 A63F G07D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US,A,4 095 824 (BACHMAN) 20 June 1978 see column 1, line 3 - line 12 see column 4, line 8 - line 55 see column 6, line 22 - line 58 see claims 1-5; figures 3-5 ---	1-5
X	CA,A,2 076 562 (BRYAN W. CARRICK ET.AL.) 24 February 1993 see page 2, line 24 - line 29 see page 13, line 25 - line 29; claims 1,9,14; figure 4 ---	1,5
A	US,A,3 877 155 (ROYKA ET.AL.) 15 April 1975 see claims 1-8; figures 1A,1B,2,3 see column 2, line 16 - column 3, line 32 see column 5, line 27 - line 65 see column 11, line 38 - line 44 --- -/--	1-3,5



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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Date of the actual completion of the international search

28 September 1994

Date of mailing of the international search report

17.10.94

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INTERNATIONAL SEARCH REPORT

Int. l. Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US,A,3 055 117 (ISIDOR M.BERNSTEIN ET.AL.) 25 September 1962 see column 5, line 34 - column 6, line 13; claim 1; figures 2A-E ---	1-5
P,X	EP,A,0 568 814 (SCIENTIFIC GAMES) 10 November 1993 see column 3, line 35 - column 4, line 28 see column 5, line 16 - line 45; claims 1-5,11,17,18; figures 1,2 -----	1-5

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 94/01433

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		GB-A- 1235941	16-06-71
		US-A- 3938993	17-02-76
US-A-3055117		NONE	
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		AU-B- 5313494	17-03-94
		CA-A- 2091723	08-11-93
		US-A- 5346258	13-09-94